

Date: Tuesday, 1/9/2007 4:06:24 PM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : SHORT STEP ASSEMBLY HIGH SKID LH
Job Number : 30207	
Estimate Number : 10575	
P.O. Number : N/A	Part Number : D350591213
This Issue : 1/9/2007 S.O. No. : N/A	Drawing Number : D3078 REV A
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : LARGE FAB ASSY	Drawing Revision : A
Previous Run : 29654	Material : N/A
Written By : <i>[Signature]</i>	Due Date : 2/15/2007 Qty: 5 Um: Each
Checked & Approved By : <i>[Signature]</i>	
Comment : Est Rev:B 05.10.14 Modified step 10 KJ/EC	
Est Rev:C 06-06-19 Added D2732-030 AS PER DSI9294 JLM	
Est Rev:C 06-06-27 Revised as per DSI9340 JLM	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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**Comment:** DOCUMENT CONTROL

Photocopy bluefile and type labels as per PPP D350-591-213 CHG002

KS 07.01.24

2.0	D2622120C	Extrusion
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**Comment:** Qty.: 0.5000 Each(s)/Unit Total : 2.5000 Each(s)

Pick:

Qty Part Number	Description	Batch
1 D2622-120C	Extrusion	<i>327077-1</i>
		<i>328215-4</i>

KE. 07.01.15

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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**Comment:** LARGE FABRICATION RESOURCE 1

1-Cut D2622-120 extrusion to 59.75" long as per Dwg D3078

2-Drill extrusion as per Dwg D3078 using Jig DT8680 for rivets.

3-Deburr

KE. 07.01.15

KE. 07.01.17

KE. 07.01.17

4.0	QC5	INSPECT WORK TO CURRENT STEP
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**Comment:** INSPECT WORK TO CURRENT STEP*NO7/01/17(S)*

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	1						

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Drawing Name: SHORT STEP ASSEMBLY HIGH SKID LH

Job Number: 30207

Part Number: D350591213

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

D30671

End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D3067-1

End Plate 329356

PE. 07.01.18 5

6.0

D30631

Support



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D3063-1

Support 328241

PE. 07.01.17 5

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel end for welding FWD ONLY

2-Weld Support using Jig DT8681, weld Fwd End Plate as per QSI 004 & Dwg D3072

A/R Aluminum Rod M190237
M19612

3-Grind End Plate flush

PE. 07.01.17 5

PE. 07.01.17 5

PE. 07.01.18 5

8.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

11/07/01/19 (S)

9.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

11/07/01/19 (S)

10.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

FC 07 01 19 (S)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Drawing Name: SHORT STEP ASSEMBLY HIGH SKID LH

Job Number: 30207

Part Number: D350591213

Job Number:



Seq. #:

Machine Or Operation:

Description :

11.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

PE 01-01-22

5

12.0

D3065041

Step Leg Assembly



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D3065-041

Step Leg Assy

328738

PE 07-01-22

5

13.0

D30661

Spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

2 D3066-1

Spacer

329979

PE 07-01-22

5

14.0

MS20600AD4W4

Rivets



Comment: Qty.: 16.0000 Each(s)/Unit Total : 80.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

16 MS20600AD4W4

Rivet

3101649

PE 01-01-22

5

15.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Rivet Leg Assembly as per Dwg D3078.

PE 01-01-22

5

16.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

PE 01-01-22 (5)

17.0

D30671

End Plate



Comment: Qty.: 1.0000 Each(s)/Unit Total : 5.0000 Each(s)

Pick:

Qty Part Number

Description

Batch

1 D3067-1

End Plate

329356

PE 07-01-22

5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY HIGH SKID LH

Job Number: 30207

Part Number: D350591213

Job Number:



Seq. #:

Machine Or Operation:

Description :

18.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Bevel Aft end for welding

2-Inspect for foreign object as per QSI 024

3-Weld Aft End Plate as per QSI 004 & Dwg D3078

A/R Aluminum Rod B100231

4-Grind End Plate flush

RE. 07.01.22

RE. 07.01.22

RE. 07.01.22

RE. 07.01.22

19.0

QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

07/01/23 (5)

20.0

QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

07/01/23 (5)

21.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Touch Up Chemical conversion

JSV

07/01/24 (5)

22.0

POWDER COATING

POWDER COATING



M103141



(5x)

Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

MR/YL

07/01/24

23.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



M102635



Comment: HAND FINISHING RESOURCE #1

Wing Walk as per Dwg D3078 and QSI 005 4.4

FR/

07/01/24

(5)

24.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: Inspect Powder Coat and Wing Walk

07/01/25 (5)

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY HIGH SKID LH

Job Number: 30207

Part Number: D350591213

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Packing Kit

26.0

D2182B

Neoprene Cushion-.750 bl



Comment: Qty.: 0.3000 f(s)/Unit Total: 1.5000 f(s)

Pick: Packing Kit

Qty Part Number Description Batch

2 D2182b035 Rubber Cushion

628042 ✓

27.0

D2274

Radius Block



Comment: Qty.: 4.0000 Each(s)/Unit Total: 20.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

4 D2274 Radius Block

628713 ✓

28.0

D2732

Rubber Extrusion



Comment: Qty.: 1.0500 f(s)/Unit Total: 5.2500 f(s)

Pick: Packing Kit

Qty Part Number Description Batch

4 D2732-030(3" LONG)

Rubber Cushion

626472 16x 628501 4x ✓

29.0

D2856400

Abrasion Strip



Comment: Qty.: 0.6000 f(s)/Unit Total: 3.0000 f(s)

Pick: Packing Kit

Qty Part Number Description Batch

1 D2856-400(7.2") Abrasion Strip

629285 ✓

30.0

D22301

Mounting Lug



Comment: Qty.: 2.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

2 D2230-1

Clamp

628902 ✓

07/01/25 (5)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SHORT STEP ASSEMBLY HIGH SKID LH

Job Number: 30207

Part Number: D350591213

Job Number:



Seq. #:

Machine Or Operation:

Description :

31.0

D22303

Mounting Lug



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

2 D2230-3

Clamp

D29601 ✓

32.0

AN335A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

2 AN3-35A

Bolt

M102339 ✓

33.0

AN411A

Bolt



Comment: Qty.: 6.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

6 AN4-11A

Bolt

M100743 ✓

34.0

AN960JD10

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 20.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

4 AN960JD10

Washer

M100743 ✓

35.0

AN960JD416

Washer



Comment: Qty.: 12.0000 Each(s)/Unit Total : 60.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

12 AN960JD416

Washer

M101938 ✓

CP 04/01/25 (5)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: ☒ _____ Date: 07/11/05
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: SH0RT STEP ASSEMBLY HIGH SKID LH

Job Number: 30207

Part Number: D350591213

Job Number:



Seq. #:

Machine Or Operation:

Description :

36.0

MS21042L3

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total: 10.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

2 MS21042L3 Nut (or -3)

M102217

37.0

MS21042L4

Nut



Comment: Qty.: 6.0000 Each(s)/Unit Total: 30.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

6 MS21042L4 Nut (or -4)

M19185

38.0

AN413A

Bolt



Comment: Qty.: 4.0000 Each(s)/Unit Total: 20.0000 Each(s)

Bolt

Batch: *M101938*

CP 04/01/25 (5)

39.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

CP 7/01/25 (5)

40.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D350-591-213

Location:

PPP Rev: *C*

CP 04/01/25 (5)
CP 7/01/25 (5)

41.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

CP 07/01/26 (3)

Job Completion



U 07/01/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



DESIGN CP	DRAWN BY CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED #	APPROVED #	DRAWING NO. D3078	REV. A SHEET 1 OF 2
DATE 02.09.11		TITLE STEP ASSEMBLY, HI SHORT SCALE NTS	
A	02.09.11	NEW ISSUE	

RELEASED
02.09.20 #

Part No.	Description	QTY -041	QTY -042
D3078-041	Step Assembly, High Short (LH)	X	
D3078-042	Step Assembly, High Short (RH)		X
D2622-60	STEP EXTRUSION	1	1
D3063-1	SUPPORT	1	1
D3065-041	LEG ASSEMBLY	1	1
D3066-1	SPACER	2	2
D3067-1	END PLATE	2	2
MS20600AD4W4	RIVET	16	16

GENERAL NOTES:

- 1) -041 SHOWN, FOR -042 INSTALL D3063-1 SUPPORT OPPOSITE SIDE
- 2) WELD PER DART QSI 004
- 3) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.

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WORK ORDER
NO. 30207

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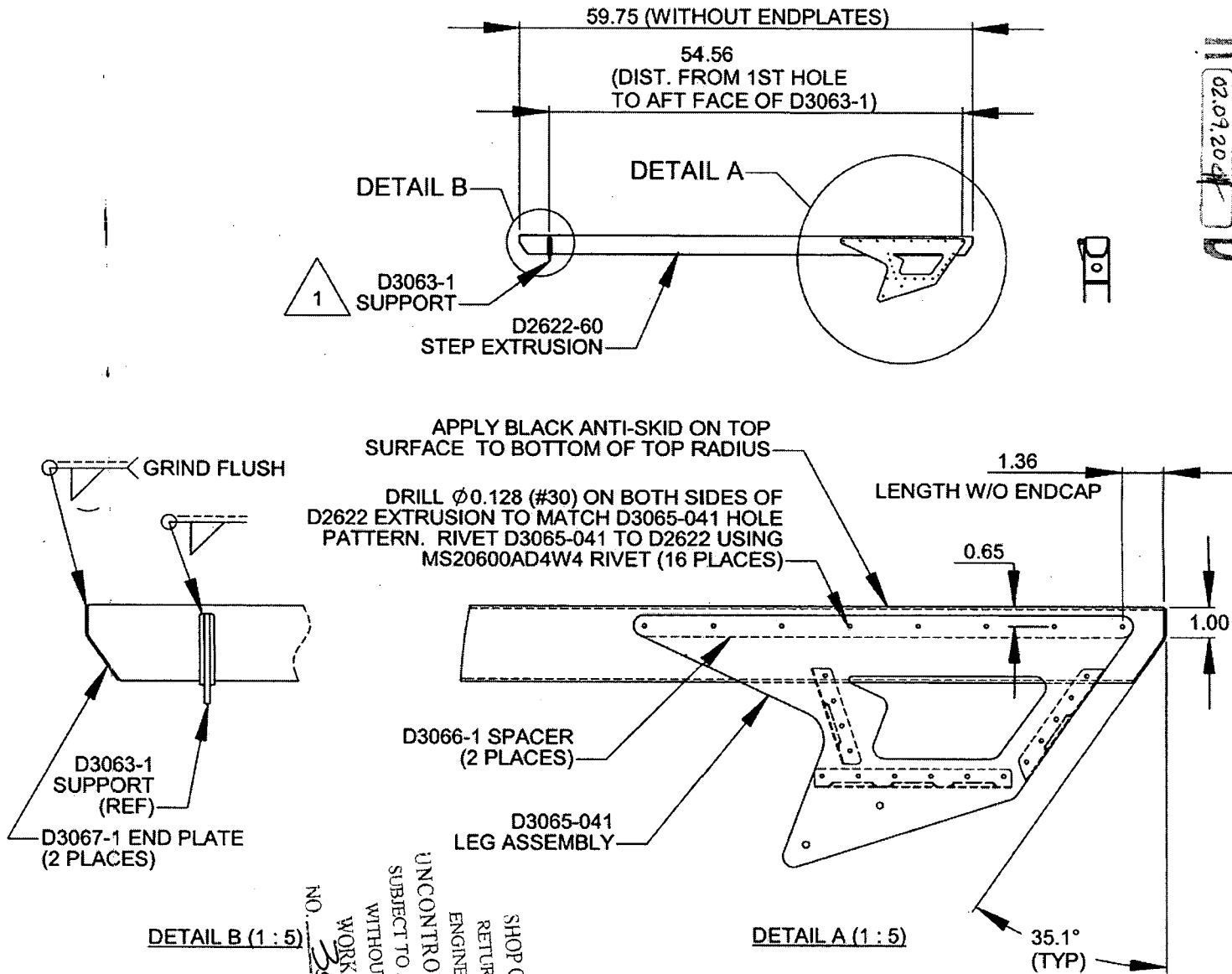
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DART



DESIGN	DW	DRAWN BY	DP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
CHECKED	✓	APPROVED	✓	DRAWING NO. D3078
DATE	02.09.11	TITLE	STEP ASSEMBLY, HI SHORT	REV. A SHEET 2 OF 2
		SCALE	1:20	

RELEASED
02.09.2004



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NO. 89

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name Art Ewers
Joint Welding Procedure Tig
Part number and Job number A350 5912 B / B 30207

TEST WELDS REQUIRED

BASE METAL Alum WELDING PROCESS Tig
Penetration Complete ☒ Partial ☐ Single Weld ☒ Double Weld ☐
Current AC ☒ DC ☐ Backing YES ☐ NO ☒

	Position		Vertical: Down <input type="checkbox"/> Up <input type="checkbox"/>	
Sheet Groove	1G <input type="checkbox"/>	2G <input type="checkbox"/>	3G <input type="checkbox"/>	4G <input type="checkbox"/>
Tube Groove	1G <input type="checkbox"/>	2G <input type="checkbox"/>	5G <input type="checkbox"/>	6G <input type="checkbox"/>
Sheet Fillet	1F <input type="checkbox"/>	2F <input type="checkbox"/>	3F <input type="checkbox"/>	4F <input type="checkbox"/>
Tube Fillet	1F <input type="checkbox"/>	2F <input type="checkbox"/>	4F <input type="checkbox"/>	5F <input type="checkbox"/>

Crossbolt Spacer Welded into Skid tube

TEST RESULTS

Visual Pass ☒ Fail ☐
Penetration Pass ☒ Fail ☐

Crossbolt Spacer Pass ☒ Fail ☐

The above named individual is qualified in accordance with AWS D17.1.2001 to weld

Date of Test Coupon 07/01/17 Qualifier David David

